

Front cover photos (from left)

- 1 Mongolia / Farmdo Co., Ltd.
- 2 Indonesia / Toyota Tsusho Corporation
- 3 Viet Nam / Yuko Keiso Co., Ltd.

Back front cover photos (from left)

- 1 Thailand / Yokohama Port Corporation
- 2 Bangladesh / Ebara Refrigeration Equipment & Systems Co., Ltd.
- 3 Thailand / KYOWA HAKKO BIO CO. LTD.

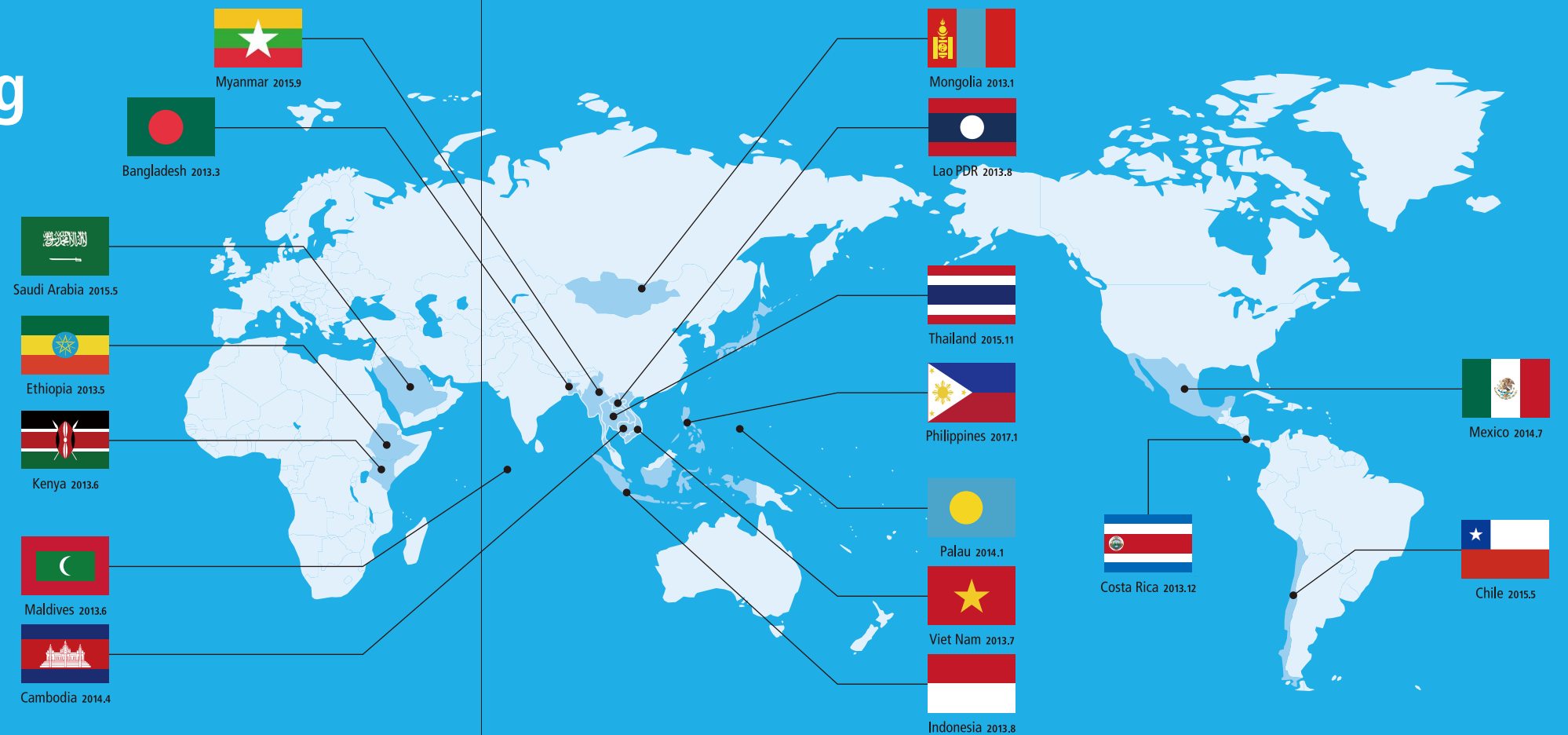


Introduction of Joint Crediting Mechanism (JCM) & Financing Programme for JCM Model Projects

# About the Joint Crediting Mechanism (JCM)

Many of the advanced low-carbon technologies do not necessarily promise investment-return to developing countries. Japan will, while lowering burdens of those countries, promote diffusion of advanced low-carbon technologies particularly through implementation of the Joint Crediting Mechanism (JCM).

As of May 2019, Japan has established partnership with 17 countries and continues to communicate with other developing countries.

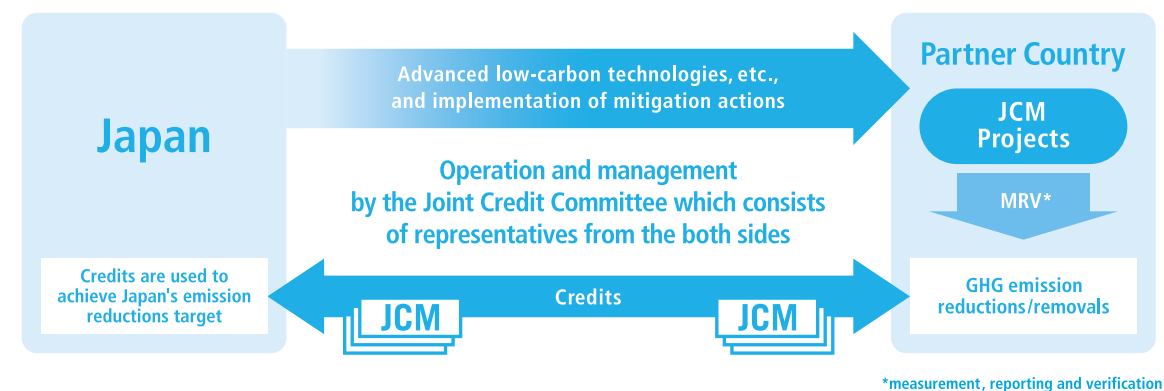


## Basic concept of the JCM

Facilitating diffusion of advanced low-carbon or decarbonizing technologies, products, system, services and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing country.

Appropriately evaluating contributions from Japan to GHG emission reductions or removals in a quantitative manner and use them to achieve Japan's emission reduction target.

Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals.



## The role of the JCM for Japan's NDC\*

The JCM is not included as a basis of the bottom-up calculation of Japan's emission reductions target, but the amount of emission reductions and removals acquired by Japan under the JCM will be appropriately counted as Japan's reduction. Apart from contributions achieved through private sector-based projects, accumulated emission reductions or removals by FY2030 through governmental JCM programs to be undertaken within the government's annual budget are estimated to be ranging from 50 to 100 million t-CO<sub>2</sub>.

(\*Nationally Determined Contributions)

## JCM and the Paris Agreement

The role of carbon market mechanisms, including the JCM, is described under the Article 6 as a way to use emission reductions achieved overseas (internationally transferred mitigation outcomes: ITMO) towards national emission reduction targets. Furthermore, at the COP24 held in Katowice, Poland, the Paris Agreement Work Programme was adopted for the full implementation of the Paris Agreement for 2020 onwards.



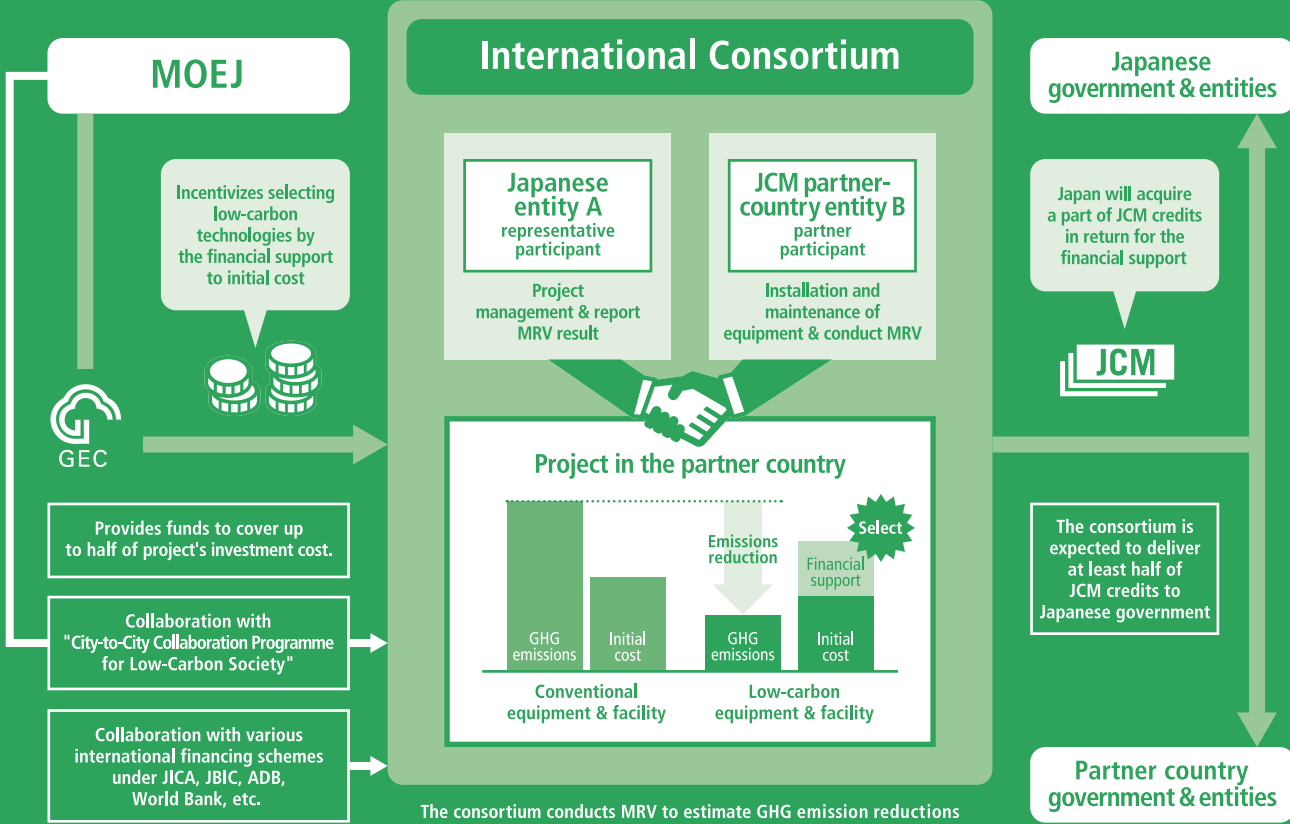


# Financing Programme for JCM Model Projects by MOEJ

Ministry of the Environment, Japan (MOEJ) has been implementing the "Financing Programme for JCM Model Projects" in order to promote diffusion of low-carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions in developing countries. Participants in the model project implement a project to reduce GHG emissions utilizing advanced low-carbon technologies, etc. and also conduct measurement, reporting and verification (MRV) of GHG emission reductions. The model project will finance part of an investment cost (up to half), on the premise of seeking to deliver at least half of the issued JCM credits to the Government of Japan. The finance will be provided to a Japanese representative participant in an international consortium.



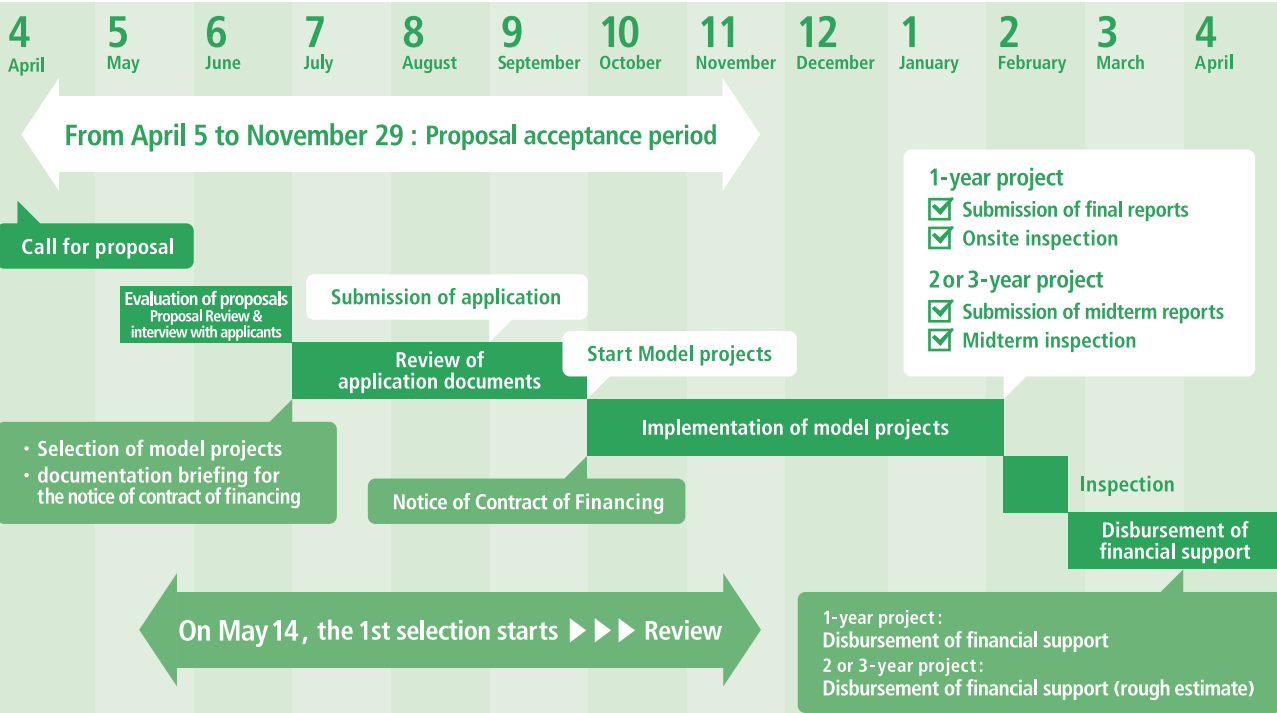
1 Viet Nam / HOYA CORPORATION  
2 Maldives / Pacific Consultants Co., Ltd.



## Overview of Financing Programme for JCM Model Project in FY2019

Budget	JPY9.9 billion (Approx. USD90million)	<div>Financial support per project</div> <div>From ¥50million to ¥2billion (approx.)</div>
Executing Entity	International Consortium that consists of a Japanese entity and a JCM partner-country entity (ies)	
Scope of Financing	Facilities, equipment, vehicles, etc. which reduce CO2 from fossil fuel combustion as well as construction cost for installing those facilities, etc.	
Eligible Projects	Start installation after the Contract of Finance is concluded and finish installation within 3 years.	
Maximum percentage of Financial Support	Maximum of 50% and reduce the percentage according to the number of already selected project(s) using a similar technology in each partner country. ※ Number of already selected project(s) using a similar technology in each partner country : none (0) = up to 50%, up to 3 (1-3) = up to 40%, more than 3 (>3) = up to 30%. The percentage of financial support will be determined by GEC.	
Cost-effectiveness	Cost-effectiveness of GHG emission reductions is expected to be JPY4,000/tCO2eq or better. ※ If the number of PV projects in a partner country is 5 or more, cost-effectiveness is expected to be JPY3,000/tCO2eq or better.	

## JCM Model Projects Schedule in FY2019





- 1 Thailand / FAST RETAILING CO., LTD.  
High Efficiency LED Lighting
- 2 Cambodia / AEON MALL Co., Ltd.  
Solar Power System and High Efficiency Centrifugal Chiller
- 1 Bangladesh / Ebara Refrigeration Equipment & Systems Co., Ltd.  
High Efficiency Centrifugal Chiller
- 2 Mexico / Suntory Spirits Limited  
Once-through Boiler and Fuel Switching



- 3 Palau / Pacific Consultants Co., Ltd.  
Solar Power Plants for Commercial Facilities
- 4 Indonesia / Toyota Tsusho Corporation  
Double-Bundle type Heat Pump
- 1 Indonesia / Hokusan Co., Ltd.  
CNG-Diesel Equipment to Public Bus
- 2 Thailand / Yokohama Port Corporation  
Energy Efficient Equipment to Bangkok Port



- 3 Indonesia / Environmental Management and Technology Center  
Energy Saving in Industrial Wastewater Treatment System
- 4 Myanmar / Kirin Holdings Company, Limited.  
Energy Saving Brewing Systems
- 1 Thailand / TSB Co., Ltd.  
Floating Solar Power System
- 2 Mexico / NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc.  
Power Generation with Methane Gas Recovery System



- 1 Viet Nam / Yuko Keiso Co., Ltd.  
Amorphous High Efficiency Transformers in power grid
- 2 Viet Nam / Yokohama Water Co., Ltd.  
High Efficiency Water Pumps
- 3 Myanmar / JFE Engineering Corporation  
Waste to Energy Plant in Yangon City
- 3 Myanmar / Fujita Corporation  
Rice Husk Power Generation

## JCM Model Projects by MOEJ FY2013 - 2019 as of August 31, 2019

INDUSTRY

### Mongolia : 8 Projects

- Heat Only Boiler (HOB)
- 15MW Solar PV
- 2.1MW Solar PV in Farm
- 20MW Solar PV
- 10MW Solar PV
- 21MW Solar PV
- 8.3MW Solar PV in Farm
- Fuel Conversion by Introduction of LPG Boilers

### Myanmar : 7 Projects

- 700kW Waste to Energy Plant
- Brewing Systems to Brewery Factory
- Once-through Boiler in Instant Noodle Factory
- 1.8MW Rice Husk Power Generation
- Refrigeration System in Logistics Center
- 8.8MW Waste Heat Recovery in Cement Plant
- Brewing Systems and Biogas Boiler to Brewery Factory

### Bangladesh : 5 Projects

- Centrifugal Chiller
- 50MW Solar PV Power Plant
- Loom at Weaving Factory
- Centrifugal Chiller
- 315kW PV-diesel Hybrid System

### Saudi Arabia : 1 Projects

- Electrolyzer in Chlorine Production Plant

### Kenya : 2 Projects

- 1MW Solar PV at Salt Factory
- 38MW Solar PV

### Maldives : 1 Projects

- 186kW Solar Power on School Rooftop

### Laos : 3 Projects

- Amorphous transformers
- 14MW Floating Solar PV
- 11MW Solar PV

### Cambodia : 4 Projects

- LED Street Lighting
- 200kW Solar PV at International School
- Solar PV & Centrifugal Chiller
- Inverters for Distribution Pumps

### Philippines : 11 Projects

- 15MW Hydro Power Plant
- 4MW Hydro Power Plant
- 1.53MW Rooftop Solar PV
- 1MW Rooftop Solar PV
- 1.2MW Rooftop Solar PV
- 2.5MW Rice Husk Power Generation
- 0.16MW Micro Hydro Power Plant
- 4MW Solar PV
- 19MW Hydro Power Plant
- 18MW Solar PV
- Biogas Power Generation and Fuel Conversion

## POWER GENERATION AND SUPPLY

## COMMERCE

- Energy Efficiency
- Effective Use of Energy
- Renewable Energy
- Transport
- Waste Handling and Disposal

### Viet Nam : 21 Projects

- Digital Tachographs
- Amorphous transformers 1
- Air-conditioning in Hotel
- Air-conditioning in Lens Factory
- Container Formation Facility
- 320kW Solar PV in Shopping Mall
- Amorphous transformers 2
- Air-conditioning Control System
- Electricity Kiln
- High Efficiency Water Pumps1
- Energy saving Equipment in Lens Factory
- Amorphous transformers 3
- Energy Saving Equipment in Wire Production Factory
- Amorphous transformers 4
- Energy Saving Equipment in Brewery Factory
- High Efficiency Chiller
- Modal Shift with Reefer Container
- Inverters for Raw Water Intake Pumps
- Waste to Energy Plant
- High Efficiency Water Pumps2
- Biomass Boiler to Chemical Factory

### Thailand : 30 Projects

- Energy Saving at Convenience Store
- 1MW Solar PV on Factory Rooftop
- Upgrading Air-saving Loom
- Centrifugal Chiller & Compressor
- Centrifugal Chiller in Tire Factory
- Co-generation in Motorcycle Factory
- Air Conditioning System & Chiller
- Refrigeration System
- Ion Exchange Membrane Electrolyzer
- Chilled Water Supply System
- LED Lighting to Sales Stores
- 12MW Waste Heat Recovery in Cement Plant
- Co-generation System
- Refrigerator and Evaporator
- 2MW Solar PV
- 3.4MW Solar PV
- Heat Recovery Heat Pump
- 5MW Floating Solar PV
- 30MW Solar PV
- Boiler System in Rubber Belt Plant
- Air-conditioning Control System
- Biomass Co-generation System
- Energy Saving Equipment in Port
- Co-generation in Fiber Factory
- 25MW Solar PV in Industrial Park
- 3.4MW Solar PV
- Biomass Boiler
- 0.8MW Solar PV and Centrifugal Chiller
- 37MW Solar PV and Melting Furnace
- Heat Exchanger in Fiber Factory

### Palau : 5 Projects

- 370kW Solar PV for Commercial Facilities
- 155kW Solar PV for School
- 445kW Solar PV for Commercial Facilities II
- 0.4MW Solar PV for Supermarket
- 1MW Solar PV for Supermarket

### Indonesia : 30 Projects

- Centrifugal Chiller at Textile Factory
- Energy Saving at Convenience Store
- Refrigerants to Cold Chain Industry
- Double Bundle-type Heat Pump
- Centrifugal Chiller at Textile Factory 2
- 30MW Waste Heat Recovery in Cement Industry
- 507kW Solar Power Hybrid System
- Regenerative Burners
- Centrifugal Chiller at Textile Factory 3
- Old Corrugated Cartons Process
- Upgrading to Air-saving Loom
- Centrifugal Chiller in Shopping Mall
- Smart LED Street Lighting System
- Once-through Boiler System in Film Factory
- Gas Co-generation System
- Once-through Boiler in Golf Ball Factory
- 1.6MW Solar PV in Jakabaring Sport City
- 10MW Hydro Power Plant
- Looms in Weaving Mill
- LED Lighting to Sales Stores
- Industrial Wastewater Treatment System
- 0.5MW Solar PV
- Gas Co-generation system
- Absorption Chiller
- 10MW Hydro Power Plant
- High Efficiency Autoclave
- CNG-Diesel Hybrid Public Bus
- Rehabilitation of Hydro Power Plant
- 12MW Biomass Power Plant
- Injection Molding Machine

### Mexico : 7 Projects

- 2.4MW Power Generation with Methane Gas Recovery System
- Once-through Boiler and Fuel Switching
- 64MW Wind Farm
- 20MW Solar PV
- 30MW Solar PV1
- Energy Efficient Distillation System
- 30MW Solar PV2

### Costa Rica : 2 Projects

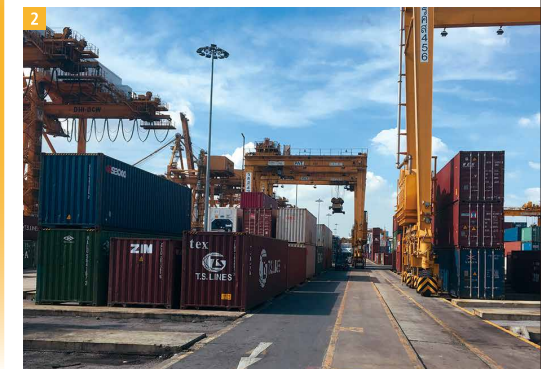
- 5MW Solar PV
- Chiller and Heat Recovery System

### Chile : 2 Projects

- 1MW Rooftop Solar PV
- 2MW Solar PV and 4MWh Storage Battery

Total 139 projects

TRANSPORT



URBAN INFRASTRUCTURE